

What is claimed is:

Sub A1
1. A cover-locking mechanism for an optical storage carrier player, the cover-locking mechanism comprising:

a switch for receiving an actuating signal from a user;

5 a cover disposed on the carrier player and selectively actuated to enter an open state for placing or removing a carrier;

a driving unit disposed on the carrier player for supporting and rotating a optical storage carrier within the carrier player;

10 a locking means disposed on the carrier player for selectively engaged with or separated from the cover, and

a controller coupled to the switch and the driving unit for detecting a rotational speed of the driving unit, the controller comprising:

a rotation speed detection module for detecting the rotation speed of the driving unit ;

15 a comparative module coupled to the detection module for comparing the rotational speed with a pre-determined speed;

wherein the locking means is actuated by the controller to be separated from the cover to make the cover enter the open state when the actuating signal is presented at the switch and the rotation speed is lower than the pre-determined speed .

20 2. The cover-locking mechanism of claim 1, further comprising a cover-engaging unit capable of selectively driving the locking means to release the cover to the open state.

25 3. The cover-locking mechanism of claim 2, wherein the cover-engaging unit comprises a solenoid valve and the locking means is a slidable protruding block, the protruding block is engaged with the cover when the solenoid valve is power-off, and the protruding block is separated from the cover when the solenoid valve is power-on.

30 4. The cover-locking mechanism of claim 1, wherein the locking means is an electromagnet, the electromagnet is engaged with the cover when the electromagnet is power-on, and the electromagnet is separated from the cover when the electromagnet is power-off.

5. The cover-locking mechanism of claim 1, wherein the cover can be

actuated to enter a locked up state that capable of preventing the cover from being opened when the rotation speed of the carrier is higher than the predetermined speed.

6.The cover-locking mechanism of claim 1, wherein the controller further comprises a signal generation module, capable of generating a speed-reduction signal transmitting to the driving unit for reducing its rotation speed as the rotation speed is higher than a predetermined speed and the actuating signal is presented at the switch.

7.The cover-locking mechanism of claim 6, wherein the signal generation module, capable of generating an output signal to make the cover enter the open state as the rotation speed is lower than a predetermined speed and the actuating signal is presented at the switch.

8.The cover-locking mechanism of claim 1, wherein the controller is remotely controlled.

9.A method for controlling an open state and a locked state of a cover installed on an optical storage carrier player, the carrier player having a driving unit for supporting and rotating an optical storage carrier, a locking means for selectively engaged with or separated from the cover, and a controller coupled to the driving unit and the locking means, the method comprising following steps of:

(a) presenting an actuating signal to actuate the controller to detect a rotation speed of the driving unit and compare the rotation speed with a predetermined speed;

(b) generating a first control signal by the controller transmitting to the locking means to make the locking means engaged with the cover when the detected rotation speed is higher than the predetermined speed; and

(c) generating a second control signal the controller transmitting to the locking means to make the locking means separated from the cover when the detected rotation speed is lower than the predetermined speed to make the cover to enter the open state.

10.The method of claim 9, wherein the controller generates a speed-reduction signal transmitting to the driving unit to reduce the rotation speed when the detected rotation speed is higher than the predetermined

speed and the actuating signal is presented.

11. The method of claim 9, wherein the actuating signal of step (a) is remotely presented through a switch.

12. The method of claim 9, wherein the rotation speed signal of the driving unit of step (a) is detected by transforming a sine wave signal generated by the driving unit into a series of pulse signal with intervals.

13. The method of claim 12, wherein the pulse is corresponding to the wave crest of the sine wave.

14. The method of claim 12, wherein the pulse is corresponding to the wave valley of the sine wave.

15. The method of claim 10, wherein the speed-reduction signal is a series of pulse signal with a longer interval corresponding to a reduced rotation speed lower than the predetermined speed.

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